

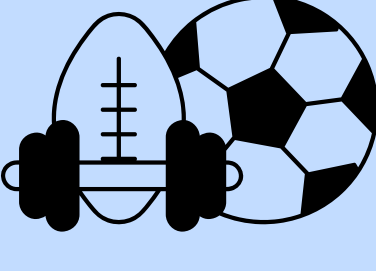
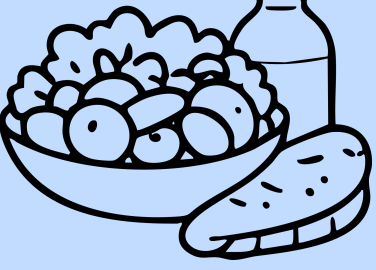


# SHAPED - Health behaviour interventions to support children and young people post-cancer treatment: A rapid scoping review

Esther Carter<sup>1,2</sup>, Deborah Rowley<sup>3</sup>, Martin Lamb<sup>1,2</sup>, Sarah Massey<sup>3,4</sup>, Pelagia Mavraki<sup>2,5</sup>, Eleni Maria Kaframani<sup>2,6</sup>, Liam Humphreys<sup>1,2</sup>

<sup>1</sup> School of Sport and Physical Activity, Sheffield Hallam University, Sheffield, United Kingdom  
<sup>2</sup> Advanced Wellbeing Research Centre, Sheffield Hallam University, Sheffield, United Kingdom  
<sup>3</sup> Sheffield Children's Foundation Trust, Sheffield, United Kingdom  
<sup>4</sup> Illingworth Library, Sheffield Children's Foundation Trust, Sheffield, United Kingdom  
<sup>5</sup> Democritus University of Thrace, Department of Physical Education and Sports Science, D.P.E.S.S., Komotini, Greece  
<sup>6</sup> Sports Excellence, 1st Department of Orthopaedic Surgery, National and Kapodistrian University of Athens, Athens, Greece.

## Introduction

Children and young people (C&YP) who have had cancer treatment can exhibit:

-  Decreased physical activity (PA) levels (Braam, 2016)
-  Poor nutritional status (Revuelta Iniesta et al., 2019)
-  Poor mental health (Friend et al., 2018)
-  Disruptions to education and peer socialisation (Martinez-Santos et al., 2021)

## Aims

Undertake a rapid scoping review to identify **key characteristics, effectiveness, and gaps** in health behaviour interventions for **C&YP aged 0-18** following cancer treatment.

## Methods

### Search Strategy

- Published 2000-2025
- JBIC & PRISMA-SCR guidelines
- 7 academic & 7 grey literature databases

### Eligibility Criteria

- C&YP aged ≤18
- Completed cancer treatment
- Any health behaviour (e.g., PA, diet, mental health)

### Screening & Extraction

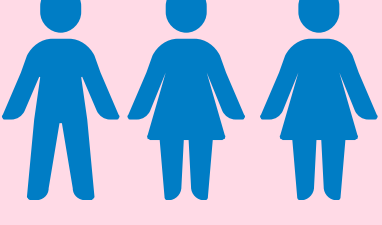
- All papers screened by 2 reviewers (EC, ML)
- Data extracted by 3 reviewers (EC, PM, EK)

### Data Synthesis

- Content analysis (Miles & Huberman, 1994)
- Taxonomy of Behaviour Change Techniques (BCTs) (Michie et al., 2013)

## Results

5253 studies screened → **20 studies included**

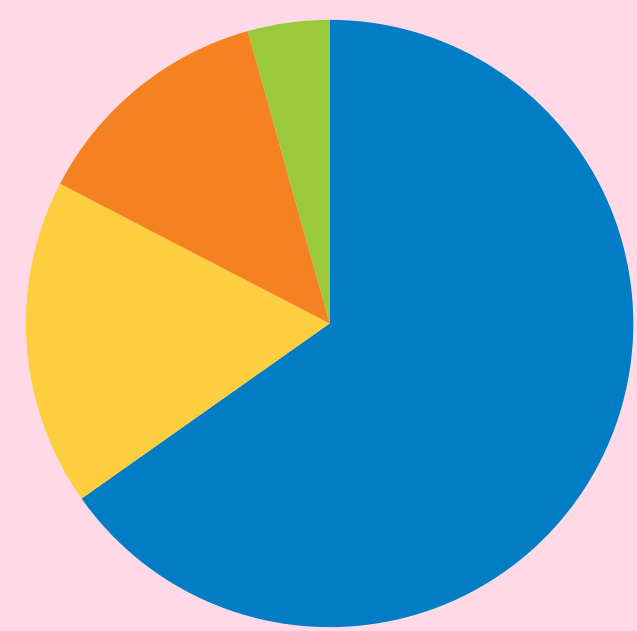
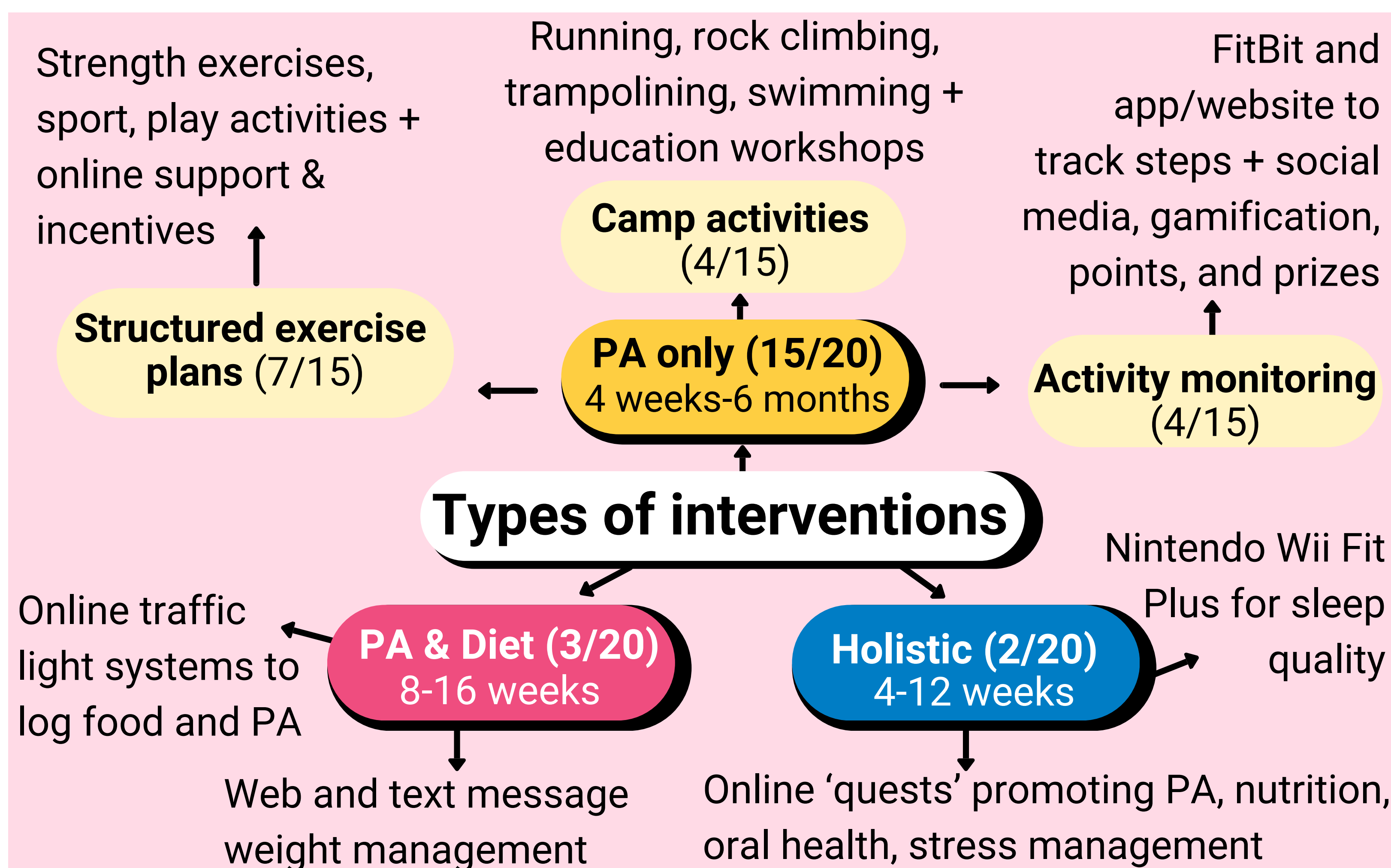
854 participants age 5-18 

11/20 RCT, 8/20 single-arm pre-post, 1/20 quasi-randomised study


50% included digital elements


**Sample:**


- 15 C&YP only
- 4 C&YP + Carers
- 3 C&YP + Siblings
- 1 AYA





### Study outcomes

Feasibility and acceptability  Scores >70%

**Physical activity** (11/14 studies improved)  79%

**Quality of life** (6/8 studies improved)  75%

**Functional & Aerobic fitness** (4/6 studies)  67%

## Discussion

- Health behaviour interventions for C&YP post-cancer treatment are **feasible** and support **physical and mental wellbeing**.
- Findings to be used to **co-design a future support programme** for C&YP

### Strengths of studies:

- 60% of studies were theory-informed
  - Social cognitive theory most common (n=6)
  - 25 BCTs, most often social support (n=14)
- Social support through engaging families
- Fun, play-based, or gamified activities
- Technology enhancing personalisation

## Future directions

- Co-design** with C&YP, families, and multi-disciplinary partners
- Multi-modal** interventions beyond PA
- Health education** for families
- Tailor** interventions and use of technology to C&YP's **interests and needs**

## Contact us

SHAPED@shu.ac.uk  
E.E.Carter@shu.ac.uk

Scan the QR code to learn more about the project



## References

Braam, K. I., van der Torre, P., Takken, T., Veening, M. A., van Dulmen-den Broeder, E., & Kaspers, G. J. (2016). Physical exercise training interventions for children and young adults during and after treatment for childhood cancer. *Cochrane Database of Systematic Reviews*, 2017(3).

Friend, A. J., Feltbower, R. G., Hughes, E. J., Dye, K. P., & Glaser, A. W. (2018). Mental health of long-term survivors of childhood and young adult cancer: A systematic review. *International Journal of Cancer*, 143(6), 1279-1286.

Martinez-Santos, A., Fernandez-De-La-Iglesia, J. del C., Sheaf, G., & Coyne, I. (2021). A systematic review of the educational experiences and needs of children with cancer returning to school. *Journal of Advanced Nursing*, 77(7), 2971-2994.

Michie, S., Richardson, M., Johnston, M., Abraham, C., Francis, J., Hardeman, W., Eccles, M. P., Cane, J., & Wood, C. E. (2013). The behavior change technique taxonomy (v1) of 93 hierarchically clustered techniques: Building an international consensus for the reporting of behavior change interventions. *Annals of Behavioral Medicine*, 46(1), 81-95.

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook*. Sage.

Revuelta Iniesta, R., Pacliarotti, I., Davidson, I., McKenzie, J. M., Brougham, M. F. H., & Wilson, D. C. (2019). Nutritional status of children and adolescents with cancer in Scotland: A prospective cohort study. *Clinical Nutrition ESPEN*, 32, 96-106.